

CLAIMS

What is claimed is:

1. A method of treating a vascular disorder in an individual, wherein the method
5 comprises:
 - a) selecting an individual having an elevated G-coupled Protease Activating Receptor (PAR)-1 level, an elevated PAR-4 level, or both; and
 - b) administering an effective amount of a statin to the individual;wherein the PAR-1 level, the PAR-4 level or both are reduced, as compared to
10 the level prior to step b), to thereby treat the vascular disorder.
2. The method of Claim 1, further comprising selecting an individual who has a Total-Cholesterol (Total-C) or Low Density Lipoprotein Cholesterol (LDL-C) level in a normal range.
3. The method of Claim 1, wherein the individual has a Total-C level of less than
15 about 200 mg/dL.
4. The method of Claim 1, wherein the individual has a LDL-C level of less than about 130 mg/dL.
5. The method of Claim 1, wherein the vascular disorder is selected from the group
20 consisting of myocardial infarction, angina, stroke, pulmonary embolism, transient ischemic attack, deep vein thrombosis, thrombotic re-occlusion subsequent to a coronary intervention procedure, heart surgery or vascular surgery, peripheral vascular thrombosis, Syndrome X, heart failure and a disorder in which a narrowing of at least one coronary artery occurs.

6. The method of Claim 1, wherein the statin is selected from the group consisting of atorvastatin, an atorvastatin metabolite, pravastatin, a pravastatin metabolite, fluvastatin, a fluvastatin metabolite, cerivastatin, a cerivastatin metabolite, lovastatin, a lovastatin metabolite, simvastatin, a simvastatin metabolite,
5 rosuvastatin, rosuvastatin metabolite, pitavastatin and a pitavastatin metabolite.
7. The method of claim 6, wherein the statin is administered orally in an amount between about 5 mg and about 250 mg per day.
8. The method of Claim 1, wherein PAR-1 or PAR-4 are found on platelets.
9. A method for treating a vascular disorder in an individual, wherein the method
10 comprises:
 - a) assessing a level of PAR-1, PAR-4 or both in the individual, and
 comparing said levels to a control, wherein an elevated level of PAR-1, PAR-4 or both is determined; and
 - b) administering an effective amount of a statin to the individual;wherein the elevated level of PAR-1, the PAR-4, or both are reduced to thereby
15 treat the vascular disorder.
10. The method of Claim 9, further comprising reducing levels of PAR-1, PAR-2 or both by at least 10%, as compared to the elevated levels of step a).
11. The method of Claim 10, further comprising selecting an individual who has a
20 Total-C or LDL-C level in a normal range.
12. The method of Claim 9, wherein the vascular disorder is selected from the group consisting of myocardial infarction, angina, stroke, pulmonary embolism, transient ischemic attack, deep vein thrombosis, thrombotic re-occlusion

subsequent to a coronary intervention procedure, heart surgery or vascular surgery, peripheral vascular thrombosis, Syndrome X, heart failure and a disorder in which a narrowing of at least one coronary artery occurs.

13. The method of Claim 9, further comprising administering a vascular treating compound.
14. The method of Claim 9, wherein the statin is selected from the group consisting of atorvastatin, an atorvastatin metabolite, pravastatin, a pravastatin metabolite, fluvastatin, a fluvastatin metabolite, cerivastatin, a cerivastatin metabolite, lovastatin, a lovastatin metabolite, simvastatin, a simvastatin metabolite, rosuvastatin, rosuvastatin metabolite, pitavastatin and a pitavastatin metabolite.
15. A method of treating an individual with a vascular disorder, wherein the method comprises:
- a) selecting an individual that has a vascular disorder; and has a Total-C level, a LDL-C level, or both in a normal range; and
 - b) administering an effective amount of a statin to the individual;
- wherein a level of PAR-1, PAR-4 or both are inhibited to thereby treat the vascular disorder.
16. The method of Claim 15, wherein the individual has a Total-C level of less than about 200 mg/dL.
17. The method of Claim 15, wherein the individual has a LDL-C level of less than about 130 mg/dL.

18. A method of reducing thrombin generation in an individual, wherein the method comprises:
- a) selecting an individual that has a vascular disorder and has a Total-C level of less than about 200 mg/dL, a LDL-C level of less than about 130 md/dL, or both; and
 - b) administering to the individual an effective amount of a statin to thereby inhibit PAR-1, PAR-4 or both;
- wherein thrombin generation is reduced, as compared to the thrombin generation prior to step b).
- 10 19. The method of Claim 18, wherein the reduction of thrombin generation thereby treats or prevents a vascular disorder selected from the group consisting of myocardial infarction, angina, stroke, pulmonary embolism, transient ischemic attack, deep vein thrombosis, thrombotic re-occlusion subsequent to a coronary intervention procedure, heart surgery or vascular surgery, peripheral vascular
- 15 thrombosis, Syndrome X, heart failure and a disorder in which a narrowing of at least one coronary artery occurs.
20. The method of Claim 18, wherein inhibiting PAR-1, PAR-4 or both comprises reducing levels of PAR-1, PAR-2 or both by at least 10%, as compared to levels prior to step b).
- 20 21. The method of Claim 18, wherein the statin is selected from the group consisting of atorvastatin, an atorvastatin metabolite, pravastatin, a pravastatin metabolite, fluvastatin, a fluvastatin metabolite, cerivastatin, a cerivastatin metabolite, lovastatin, a lovastatin metabolite, simvastatin, a simvastatin metabolite, rosuvastatin, rosuvastatin metabolite, pitavastatin and a pitavastatin metabolite.

22. A method of preventing a vascular disorder in an individual, wherein the method comprises:
- 5 a) selecting an individual at risk for the vascular disorder, wherein the individual has an elevated PAR-1 level, an elevated PAR-4 level, or both; and
- b) administering an effective amount of a statin to the individual; wherein the PAR-1 level, the PAR-4 level or both are reduced, as compared to the level prior to step b), to thereby prevent the vascular disorder.
23. A method of preventing a vascular disorder in an individual, wherein the method comprises:
- 10 a) assessing a level of PAR-1, PAR-4 or both in the individual, and comparing said levels to a control, wherein an elevated level of PAR-1, PAR-4 or both is determined; and
- b) administering an effective amount of a statin to the individual; wherein the elevated level of PAR-1, the PAR-4, or both are reduced to thereby prevent the vascular disorder.
- 15 24. A method of preventing a vascular disorder in an individual, wherein the method comprises:
- 20 a) selecting an individual at risk for the vascular disorder, wherein the individual has a Total-C level, a LDL-C level, or both in a normal range; and
- b) administering to the individual an effective amount of a statin; wherein a level of PAR-1, PAR-4 or both are inhibited to thereby prevent the vascular disorder.
- 25 25. A method of preventing or reducing thrombin formation in an individual, wherein the method comprises:

- a) selecting an individual having a thrombin formation or an individual who is at risk for the thrombin formation; and
 - b) administering to the individual an effective amount of a statin; wherein PAR-1, PAR-4 or both are inhibited.
- 5 26. The method of Claim 25, wherein the individual has a Total-C level, LDL-C level, or both in a normal range.
27. A method of inhibiting PAR-1, PAR-4 or both in a cell, wherein said the method comprises contacting the cell with an effective amount of a statin to thereby inhibit PAR-1, PAR-4 or both.
- 10 28. The method of Claim 27, wherein the cell is contacted *ex vivo*.